

Evolving a Patterns Culture

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The foundation for the work in using and writing patterns began with Christopher Alexander who wrote such publications as *A Timeless Way of Building* and *A Pattern Language* in the 1970s. When software developers began studying his ideas, interest in patterns began to spread throughout the software development industry in the 1990s. However, efforts to introduce patterns into organizations have had mixed success. The patterns presented here are the beginning of a pattern language that addresses this issue. Its focus is the introduction of patterns into an organization, with the long-term goal the evolution of a patterns culture. The contributors are from organizations all over the world. We have found a close connection between our experiences, which is reflected in the patterns we have written.

The creation of a pattern language needs to be the work of a community. Many people have contributed, and continue to contribute, to the development of this language. These include the pattern authors, those who have attended the *Introducing Patterns into an Organization* workshops, and the countless other individuals who are providing feedback and ideas for improving the patterns.

Special thanks to all the shepherds who have worked with us along the way: Ken Auer, PLoP'97, David DeLano, PLoP'99, and Jim Coplien, EuroPloP'00.

Just as Christopher Alexander requested, we hope that “many of the people who read, and use this language, will try to improve these patterns – will put their energy to work, in this task of finding more true, more profound invariants – and we hope that gradually these more true patterns, which are slowly discovered, as times goes on, will enter a common language, which all of us can share.” [Alexander77:xv]

The patterns in this version of the language-in-progress were workshopped at EuroPloP'00. References made to other patterns in this language, shown with a small asterisk, can be found at:

<http://www.cs.unca.edu/~manns/intropatterns.html>.

Categories

The patterns in this collection are used when introducing patterns into an organization, the first “state” in building a patterns culture. The objective is to build a “grass roots” group of individuals who become interested in patterns and can then help with the growing effort to build a patterns culture throughout the organization.

States

Grass Roots

Roles

Corporate Angel
Dedicated Champion
Evangelist
Innovators
Local Leader
Pattern Mentor

Techniques

A Pattern of Their Own
Big Jolt
Bread Upon the Waters
Brown Bag
Do Food
e-Forum
Hometown Story
In Your Space
Involve Everyone
Personal Touch

Evangelist

To introduce patterns into your organization, let your passion for the new approach drive you.

You're part of a software development organization that wants to stay abreast of new technologies. You're excited about patterns. Maybe you went to a conference, read an article or book and, as a result, started learning more. You feel patterns will have value for your organization and you want to spread the word.

You want to get patterns going in your organization but you don't know how to start. How can you begin to introduce patterns to your organization?

It's hard to translate enthusiasm into action that has lasting impact. New ideas are always out there—more than we can handle. You only have so much time to get your ideas across.

To grow your idea into real change for your organization, you must be willing to invest yourself in your cause. When you look for possibilities in every situation, you can take advantage of even small windows of opportunity to get your idea across. Don't worry if you don't have an all-encompassing vision. As Senge suggests for any creative project, "develop a simple plan of action and experiment with it. Let each stage of the work build on the previous stage." [Senge94:198]

The following is from Bill Brandt, at the time, Chairman and President of Boise Cascade. "I believe it is impossible at the outset to determine just the right path for achieving desired cultural change. Although having a good initial direction is very important, it is just as important to be willing to modify the course as frequently as necessary. People throughout the organization may well view (some with relief) any significant setbacks as the failure of that new direction. Emotionally, it is critical that the leader not share this view, but rather sees setbacks as the necessary corrections needed to stay on course, just as a sailing skipper adjusts the sheets and the heading in response to changing winds and currents. . . . Finally, I have learned that cultural change requires both patience and perseverance. There are no quick fixes, and the greater the movement in the right direction, the greater the resistance to be faced." [Senge94, 468]

Therefore:

Become an Evangelist for patterns. Tell others. Share your vision. Let them feel your enthusiasm. Learn as you go and be prepared for setbacks. Give Brown Bags and set up an e-Forum. If you have a well-known contact who will come in to your organization at no cost, bring in a Big Jolt. Do Food at events when you can. Begin to identify Innovators and a Respected Techie*. Use Corporate Resources*. Try Personal Touch. If you are an author, consider using Bread Upon the Waters.

In the face of resistance remember to use Fear Less*, So What's New?*, and Just Do It*. You might consider using Gold Mine* if your job description allows it. Slowly but Surely* can help you interact with newcomers.

If you are successful in conveying your enthusiasm, a small group of those who also believe in the new idea will support you. These Innovators will help spread the word and ultimately create Grass Roots support for patterns. Real impact will require a Local Leader and a Corporate Angel. Be on the look out for possible managerial support.

The patterns movement at AG Communications Systems began with the work of an Evangelist who talked to everyone about patterns and gave Brown Bags. A small group of Innovators supported this early effort and helped identify others who might be interested. An e-Forum was established and ultimately a Local Leader helped identify a Corporate Angel.

In Daniel Quinn's book, My Ishmael, [Quinn97:198-200] A human, Julie, is communicating telepathically with a gorilla named Ishamel. Ishmael has just asked Julie to name the greatest period of human inventiveness and Julie replied, "I'd have to say this . . . is it," meaning the Industrial Revolution. "That's right," Ishamel responds and then asks, "How did it work? . . . Did an Industrial Revolution Army move into the capital and seize the reins of power? Did it round up the royal family and guillotine them?"

" . . . You've asked me what do to, Julie, and I've given one blanket directive: Be inventive. Now . . . I'm trying to show you how the greatest period of human inventiveness worked: The Industrial Revolution was the product of millions of small beginnings, a million great little ideas . . . It didn't proceed according to any theoretical design, (it) was not a utopian undertaking . . . it didn't depend on people being better than they are . . ."

Gradually, after much give and take, Ishmael suggests that the revolution needed today:

"won't take place all at once . . .

"will be achieved incrementally, by people working off each other's ideas . . .

"will be led by no one . . .

"will not be the initiative of any political, governmental, or religious body . . .

"has no targeted end point . . .

"will proceed according to no plan . . . (and)

"will reward those who further the revolution with the coin of the revolution... "

And the coin of this revolution is a better way of living.

Author: Linda Rising

Workshopped at the OOPSLA "Introducing Patterns into the Workplace" workshop (October 1996).

Shepherded and workshopped at PLoP'97 (September 1997).

Shepherded and workshopped at EuroPLoP'00 (July 2000).

Local Leader

The prerequisite for an Evangelist to become a Dedicated Champion is to enlist the support of management. When your boss lets patterns activity become part of your job, you can truly be effective.

You're an Evangelist, trying to introduce patterns into your organization.

How can you get attention and resources for your new idea?

You can entice people to meetings with intriguing e-mail messages and Do Food for just so long before you get burned out. It's hard to get people involved unless they think there's a real pay-off. Management support legitimizes things in the workplace.

"We have seen no examples where significant progress has been made without [Local Leaders] and many examples where sincerely committed [Corporate Angels] alone have failed to generate any significant momentum." [Senge96]

Korson and Vijay have made a similar observation, "Site leadership is critical...experience suggests that where the technology will really make an impact across a broader spectrum, versus just a small project, is in those cases where [local] management...takes responsibility for committing the site to the technology..." [Korson96]

Therefore:

Find a Local Leader to support patterns, ideally, your immediate supervisor or boss.

Senge describes this role: "[Local Leaders] are individuals with significant business responsibility and 'bottom-line' focus. They head organizational units that are large enough to be meaningful microcosms of the larger organization, and yet they have enough autonomy to be able to undertake meaningful change independent of the larger organization." [Senge96]

The Local Leader keeps the focus on business results and can commit limited resources to efforts that can show results.

Recent research [Green+00] shows that the degree to which adopting an innovation is voluntary increases both the developers' sense of control of their environment and suggests that the Local Leader should encourage but not mandate the use of an innovation.

To help keep the Local Leader interested, offer the chance for a Royal Audience*.

The Local Leader can also help you find support at a high-level and is your best hope for identifying a Corporate Angel.

The Local Leader may play the role of Coplien's Fire Walls (keep pests away) or Patron (project champion and high-level decision-maker). [Coplien95]

This pattern has been successfully applied at AG Communication Systems. Two Local Leaders have supported the patterns activities and the work of a Dedicated Champion. The Local Leader was instrumental in opening the door to the Corporate Angel.

This pattern has also been used by the Fundacao Centro Tecnologico para Informatica CTI in Brazil. In a small organization, the Corporate Angel could also be the Local Leader and the Dedicated Champion and may also be involved with project implementation.

No pattern effort would have been started at U S WEST without the budget from the Local Leader to support the Dedicated Champion.

Author: Linda Rising

Workshopped at the OOPSLA '96 "Introducing Patterns into the Workplace" workshop (October 1996).

Shepherded and workshopped at PLoP '97 (September 1997).

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Dedicated Champion

When the patterns activity becomes part of your job description, your effectiveness increases considerably.

You're an Evangelist with a few Innovators who has successfully enlisted a Local Leader.

How can you build on your volunteer effort as an Evangelist and the help of a few Innovators ?

It takes a lot of energy to keep things going on the side. There's a limited amount of "free" time in any day.

Without the pro-active effort of someone whose job description includes the new technology, the new idea can wither and die on the vine. A single, dedicated individual can bring a focus to the activities necessary to maintain a sufficient level of interest in patterns to keep the idea alive.

Therefore:

Enlist the help of your Local Leader to define your new role as Dedicated Champion. For this pattern, dedication means: (1) devotion to the cause and (2) time dedicated to the task of "championing" patterns—in other words, this must be part of your job description.

This role is similar to Senge's leader, "those people who 'walk ahead,' people who are genuinely committed to deep change in themselves and in their organizations. They lead through developing new skills, capabilities, and understandings." [Senge96]

The change accelerates when they accept and like you—the Grass Roots are quick to get their information from people they like and can relate to. [Rogers95:346]

Now that your job allows time for patterns activities, use Pattern Mentor, Big Jolt, and Pilot Project*.

To be truly effective, you will need a Corporate Angel.

In a small organization, the Corporate Angel could also be the Dedicated Champion and may be involved with project implementation.

The Dedicated Champion could play the role of Coplien's Gatekeeper (someone who funnels information in and sends information out). [Coplien95]

This pattern has been successfully applied at AG Communication Systems. The Evangelist was able to convince her Local Leader that the patterns initiative was worth supporting. While patterns activity was never her full-time job, there was

enough flexibility in her job description to accomplish a lot more than she had been able to do on her own time.

There was a great deal of effort in attempting to get patterns going at U S WEST. This would not have been possible without the Local Leader appropriating time for Dedicated Champion.

This pattern has also been used by the Fundacao Centro Tecnologico para Informatica CTI in Brazil.

What allowed us to depart from our normal manner business? For us, the most important element ...was a successful champion who engenders interest in process change. A champion should be a respected developer who is part of the team, known for getting work done and respected for desiring practical improvements. ...I can't stress this enough: when management determines that process must be followed, the pressure comes from outside the group. It is foreign, and team members will likely reject it. If the enthusiasm, however, comes from respected members of the group, developers feel compelled to listen. After all, these people actually know what it's like in the trenches. Once the other team members see real benefits, they'll jump on the bandwagon as well, and the revolution will be well underway. [Roberts00]

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Corporate Angel

Very high-level managerial support is necessary for any activity to thrive and have access to resources.

You're an Evangelist or a Dedicated Champion.

Big-ticket items—training, books, conferences and visiting gurus—need the backing of higher levels than your own boss. How can you get this kind of support?

Brown Bags and enthusiasm can only go so far. Real training, books, conferences, and visiting gurus will be needed if patterns are to grow. However, resources are limited, since each level of management has authority to spend only in a certain area, whereas very high-level support can make many inroads easier.

For patterns to be successful, very high-level managerial support must be involved, someone who believes in the importance of patterns and will lend appropriate coaching and direction. This high-level supporter must be respected across his organization; otherwise the support could possibly hurt your cause.

Even if all the developers subscribe to patterns (unlikely in all but the smallest organizations), the support of high-level management is essential for tools, training, and other support activities.

If the Corporate Angel is especially enthusiastic and knowledgeable, the whole process of introducing patterns is eased, since lower-level managers will be more open to directives from the top, especially if a Respected Techie* is on your side.

Therefore:

Enlist the support of a Corporate Angel, a high-level manager who has a special interest in patterns and will provide resources and direction to implement company strategies by supporting your idea.

To ensure that patterns have an impact across the organization, the efforts of the Dedicated Champion, the Corporate Angel and the Local Leader must be aligned. When the interests at all levels are in harmony, the paradigm shift to patterns can be made with minimal upheaval and disruption.

The role of Corporate Angel is similar to Senge's Executive Leader, who is a protector, mentor, and thinking partner. [Senge96]

The Corporate Angel can make it possible to use Big Jolt, have training, and buy books.

To help keep the Corporate Angel interested, Stay Close* and offer the chance for a Royal Audience* when an appropriate Big Jolt visitor is planned.

Coplien's Patron [Coplien95] describes the role of a high-level manager who is a development project champion and decision-maker.

The role of Corporate Angel is not an authoritarian one. The upper-level management position should not be used to dictate behavior. Cultural change takes place slowly and should be built on Grass Roots effort.

“Hierarchical authority, as it has been used traditionally in Western management, tends to evoke compliance, not foster commitment. The more strongly hierarchical power is wielded, the more compliance results. Yet there is no substitute for commitment in bringing about deep change. No one can force another person to learn if the learning involves deep changes in beliefs and attitudes and fundamental new ways of thinking and acting.” [Senge96]

Unlike many theorists of leadership, we do not regard executives as the sine qua non of organization change. We do not believe "all change starts at the top" and that "little can happen if the CEO is not on board." We have seen too many counterexamples of significant change started and sustained for some time with little or no executive leadership, and conversely too many examples of aggressive executive leadership that results in little lasting change. But sooner or later executive leadership becomes crucial, especially in sustaining change that can have organization wide, impact. The real role of executive leadership is not in "driving people to change," but in creating organizational environments that inspire, support, and leverage the imagination and initiative that exists at all levels. [Senge99]

The pharaoh Akhnaton is a good example of a high-level authority figure who attempted a paradigm shift in Egyptian culture. In paintings from his era the royal family is shown with a new and strikingly different artistic freedom, more natural, lifelike settings—radically different from the stiff, two-dimensional representations of earlier years. At the end of his brief reign, the old paradigm returned. Even a pharaoh, considered to be god incarnate, could not overcome thousands of years of a culture existing inside a single paradigm. [Aldred91]

This pattern was applied successfully in the introduction of patterns at AG Communication Systems. The Corporate Angel was the vice-president of product development. He has been a consistent supporter of all patterns activities. His influence has made it easier to bring in trainers and consultants, buy books, and attend conferences.

This pattern has also been used by the Fundacao Centro Tecnologico para Informatica CTI in Brazil. The Corporate Angel has a special interest in patterns and has worked to develop one of the standards as well as setting organization-wide goals.

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Shepherded and workshopped at PLoP'97 (September 1997).

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Innovators

When you become an Evangelist or Dedicated Champion for patterns in your organization, you will need to identify, and enlist the support of, a small group of colleagues who are interested in or are likely to become interested in patterns.

You're a new Evangelist or Dedicated Champion trying to introduce patterns into your organization.

You know the job of introducing a new idea is too much for one person to do alone. How can you begin to grow a community of people interested in patterns?

You can't get something significant going all by yourself. Even though everyone is busy, there are always a few people who like to know about new ideas. They will attend Brown Bags and other meetings where new ideas are being introduced.

Peter Senge recommends that you, "seek to establish a community of people, even if it is only a few, who share your interest and want to work together. A small group of genuinely interested and committed colleagues will make a world of difference amid the confusion and inconsistencies that invariably arise in organization wide movements." [Senge90:xxiii]

During the last few years, a new understanding of the process of organizational change has emerged. It is not top-down **or** bottom, but participative at all levels—aligned through common understanding of a system. [Senge94:89]

The often cited work of E.M. Rogers tells us that on a normal curve of adopter categories, approximately 2.5% of a social system can be classified as "innovators," where, "The salient value of the innovator is venturesomeness, due to a desire for the rash, the daring, and the risky ... the innovator plays an important role in the diffusion process: That of launching the new idea in the system by importing the innovation from outside of the [organization] boundaries. Thus, the innovator plays a gatekeeping role in the flow of new ideas into the system." [Rogers95:264]

G.A. Moore, in *Crossing the Chasm* points out, "There are not very many innovators in any given market segment, but winning them over at the outset of a marketing campaign is key nonetheless, because their endorsement reassures the other players in the marketplace that the product does in fact work." [Moore99:12]

Therefore:

Identify a small group of co-workers who seem especially interested in new ideas. Enlist their support. Encourage their participation. Listen to their suggestions for appealing to a larger community—the Grass Roots. Find ways to reward them for their help.

You won't feel so alone in what can be an uphill battle to spread the word. Some of the Innovators will help you grow a Grass Roots movement but be careful not to lean on them too much and wear them out. Encourage and reward as much as ask for help.

Innovators may tolerate something half-baked, but because they are busy they must see that it is worth their time. While they want to be first to “get the new stuff,” they want the truth without any tricks [Moore99:32]. Make sure you’ve done your homework before enlisting their support.

The impact of the Innovators as opinion leaders may be limited. Rogers notes a fundamental principle of human communication -- exchange of ideas occurs most frequently between individuals who are alike, while Innovators often obsessive interest in new ideas and venturesomeness may make other, more practical, individuals suspicious of their claims [Rogers95:286,263]. Therefore, their impact may be more indirect. They can help launch patterns into the organization by using them and providing feedback and some evidence that they are indeed useful to others [Moore99:32].

The other key to working with Innovators is to find ones who are near or have access to managers who have access to Corporate Resources* [Moore99:33].

Use Brown Bag or Do Food and Personal Touch to entice Innovators.

The patterns community at AG Communications Systems began with Brown Bags that were attended by a small group of Innovators. These people were invaluable to the Evangelist, since many of them had been with the company for a number of years and could offer suggestions about reaching others in the organization.

A small group of Innovators helped to spread the word about patterns at U S WEST.

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Workshopped at the OOPSLA'96 “Introducing Patterns into the Workplace” workshop (October 1996).

Shepherded and workshopped at PLoP'97 (September 1997).

Shepherded and workshopped at EuroPLoP'00 (July 2000).

Grass Roots

When you're an Evangelist or Dedicated Champion, you can quickly wear out the Innovators. You need broad support from rest of the organization.

You're an Evangelist or Dedicated Champion trying to introduce patterns into your organization. You have a small group of Innovators who support the new idea.

To have real impact in an organization the interest in patterns must extend beyond a few Innovators?

The Innovators are helpful at the beginning but to make real impact, you need more support. You'll need more than just a few outliers to get something significant going. It's hard to get people to take time to listen to new ideas, since everyone is busy. On the other hand, most people like to feel they are keeping up with the latest buzzword.

People don't like to be told what to do. One of the worst ways to introduce a new idea is for it to be dictated by management. By stirring up interest bottom-up, the receivers of patterns will push to get them implemented much more quickly.

"As the work spreads beyond an initial core of early champions, it does so primarily through proving its practical merits. . . .continuous practical experimentation. . . .keeps us honest. It prevents us from being champions simply because we "believe in this work." Secondly, it provides the means whereby ever-growing circles of people become engaged and learn. . . .Most people will become involved. . . .because of the practical benefits for their work." [Senge90:xviii] As it develops, this group is "able to move around the organization. They understand the informal networks, what researchers call the informal 'communities of practice,' whereby information and stories flow and innovative practices naturally diffuse within organizations." [Senge96]

Therefore:

Grow the Innovators into a larger group of people who have experience in or are very interested in patterns and give them as much information and training as possible.

Use Do Food, Brown Bag, Personal Touch, Big Jolt, and Hometown Story.

In this way, patterns are introduced from the bottom up.

You "can start your own revolution one change at a time. Once the benefits become apparent, your colleagues will join you and together you can conquer your programming world." [Roberts00]

Ultimately, you will need resources. Look for management backing—a Local Leader and Corporate Angel. The Grass Roots can call attention to patterns and perhaps lead to high-level management interest.

The push for patterns at AG Communication Systems used this approach to get software developers to take an interest in patterns.

This pattern has been used by the Fundacao Centro Tecnologico para Informatica CTI in Brazil.

Author: David E. DeLano

Workshopped at the OOPSLA '96 "Introducing Patterns into the Workplace" workshop (October 1996).

Shepherded and workshopped at PLoP'97 (September 1997).

Shepherded and workshopped at EuroPLoP'00 (July 2000).

Involve Everyone

For any new idea to be successful in an organization, you must make sure the idea reaches everyone, not just the developers.

You're a Dedicated Champion, trying to grow the Grass Roots.

There's always a danger that when some success is evident that it's easier to just rest on your laurels and stay within your comfort zone. This will never give you organization-wide impact.

Sometimes a group that's interested in patterns can become a clique and when you're focusing on a new technology it's easy to become isolated from the real needs of the organization.

When you are learning new things, it's easy for others who aren't part of the effort to become defensive and withdrawn, and perhaps afraid of not being able to keep up with changing technology.

Most people are too busy to keep up with all the latest trends but are usually interested if they are given learning opportunities appropriate for their needs. When people are given a chance to feel a part of something new, they are more excited about it and open to trying applications.

Therefore:

Even though spreading the new technology is part of your job description, you must continue to play the role of an Evangelist. Make everyone feel welcome in the new community. Build enthusiasm, pointing out specific benefits, particularly those of interest to each individual. [Webster95:57] Use Personal Touch.

Involve people from as many different groups as possible: management, developers, testers, support people, marketing, training.

Let everyone know of the many opportunities that can be enjoyed. Use In Your Space to promote these opportunities.

Create a community of learning. The best people thrive in this kind of environment. [Webster95:35]

As a result, the entire organization will feel part of something new and exciting and will be open and supportive.

This pattern has been successfully applied at AG Communication Systems. Everyone in the organization, not just development, was involved in the patterns community: system test, marketing, management, and product development.

This pattern has also been used by the Fundacao Centro Tecnologico para Informatica CTI in Brazil. Presentations have been given to the entire company. The

feedback from these presentations has allowed everyone to increase their involvement in patterns.

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Personal Touch

Contact individuals to discuss how patterns can be *personally* useful and valuable to them.

You're an Evangelist or Dedicated Champion who is introducing patterns into an organization.

What can you do to encourage an individual to take an interest in patterns?

Changing a paradigm in an organization really means convincing the individuals in the organization. As Coplien has noted, "Change happens one individual at a time."

Rogers reports that success in securing the adoption of an innovation is positively correlated to the amount of effort in communicating with individuals and the degree in which that innovation is compatible with individuals' needs. Unsuccessful change projects were ones that ignored the needs of users [Rogers95:339-40]. Therefore, "it is the task of the change leader and the change project team to identify and link the needs (and wins) of each stakeholder to the benefits of the project." [PriceWaterhouse95:52]

It may not be apparent to all individuals how they can make use of patterns. Information sessions and training will go a long way to make individuals curious and interested in patterns, but you must do more to ensure that the interest is strong enough to be sustained. Individuals that see a personal advantage in a new idea will move past curiosity and interest toward enthusiasm, creating the momentum needed to stimulate the growth of patterns throughout the organization. People take change personally, so you should help them understand the "legitimate personal wins resulting for them from the changes you envision." [PriceWaterhouse95:51]

Old habits die hard, and often not without special effort. A personalized approach may be the only way to capture the interest of some individuals.

Therefore:

Talk with individuals about ways in which patterns can be *personally* useful and valuable to them. Find one or more patterns that might help the individual with a work-related problem. Continue to find other problems and patterns until enthusiasm is sparked in this individual. You must be able and willing to listen to others, even consider "eavesdropping" on problem discussions when appropriate.

If possible, choose a comfortable, informal environment for discussions.

Encourage others who are already making use of patterns to help with this effort, especially those who are known to and respected by the individuals you are trying to convince. To be most effective, people with similar interests should be introduced. Rogers points out that "A fundamental principle of human communication is that the exchange of ideas occurs most frequently between

individuals who are alike ... Individuals enjoy the comfort of interacting with others who are similar.” [Rogers95:286-7]

People who find something useful are likely to become excited about it and talk about their “good fortune” with their friends and colleagues.

However, people can rely too much on you to find “solutions” to “their problems.” This can take time away from your primary responsibilities. Create an e-Forum to help.

It takes extra time to use this approach, but it can build a group of enthusiastic individuals who will help spread the word.

Use A Pattern of Their Own when these individuals want to learn more.

This technique was used at U S WEST. When individuals showed interest in patterns, the Dedicated Champion stopped by their office or invited them for lunch or coffee to discuss ways patterns might be helpful.

AG Communications began to spread the word about the usefulness of patterns by showing individuals how they could use the GoF patterns. They claimed, "Immediate results, it hooked them in." Innovators also used this approach. Those who were excited early on about patterns seemed to naturally work one-on-one with others on their teams to show them how patterns would be personally useful.

“This pattern is essential to keep any new technology (or process improvement) going.” At AG Communication Systems, the Dedicated Champion used this during postmortem sessions. When she heard about troubles in a project, she was quick to point out patterns (design, organizational, customer interaction, etc.) that could help.

Joe Yoder of the University of Illinois at Urbana-Champaign and The Refactory Inc. used this pattern when introducing patterns to the Illinois Department of Public Health. He “first figured out what their frustrations were” and then identified patterns that would help ease those frustrations.

This is what shepherds do in the pattern community. They take a personal interest in the work of the person they are shepherding.

Jim Coplien notes that this pattern can also work on a collective level. When he went into ParcPlace Systems with organizational patterns, it was clear the patterns addressed problems whose perception was widely shared by the team, (e.g. Firewalls) protecting engineers from requests from marketing for a change in direction. This pattern, therefore, may be more powerful when you appeal to the pain of a shared cultural malaise.

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*Shepherded and workshopped at PLoP’99 (August 1999).
Shepherded and workshopped at EuroPLoP’00 (July 2000).*

A Pattern of Their Own

Help individuals realize a personal role in the patterns effort in your organization by mentoring them through the process of writing a pattern of their own.

You're an Evangelist who wants to use a Personal Touch to get people interested in patterns. Some of these people have valuable experience to share.

How can you help individuals play a personal role in building the patterns effort in your organization?

Individuals are more enthusiastic about things they can do successfully.

Taking the time to appreciate the value in someone's effort is important in encouraging change to take place. Individuals who see their work as worthwhile and useful are likely to be more enthusiastic about continuing to do it and encourage others to do the same.

"Writing patterns is difficult work, and those who have struggled to capture the essence of their experience in a pattern are in a good position to help others who have chosen the same path." [Rising98:80]

Therefore:

Help experienced individuals to write a pattern of their own. Suggest that individuals write about something they know and love and have observed many times. Be enthusiastic and encouraging while the pattern is being drafted. Give immediate feedback. Help writers understand that their experiences are just as important as GoF or any other patterns. At the same time, be realistic about the fact that it takes time and plenty of feedback to develop a good pattern. Be sure to introduce the writer to the shepherding and writers' workshop processes.

Teaching techniques that can be used are:

Show a few "good" patterns to use as models

Brainstorm to get an outline

Give time to read and then discuss "A Pattern Language for Pattern Writing" [Meszaros&Doble98]¹

Use Pattern Writing Guided Tour*, Hero Story*, and Workshop as Teacher*.

Individuals who are encouraged to write a first pattern can become excited about writing more patterns. They will also spread the word. However, just like any other Personal Touch, this pattern takes time to do well. Some dislike writing, have poor writing skills, or have trouble thinking at the abstract level of patterns will need to have time-consuming attention paid to them. But when such a person is willing to work at it and is teamed with a mentor who enjoys teaching, the experience can be memorable and rewarding.

¹ Coplien suggests that they also read analogous sections in **Timeless Way of Building** [Alexander79] and **Oregon Experiment** [Alexander75] to allow them to acquire an understanding of pattern languages.

AG Communication Systems has a pattern writing class in which individuals write patterns and workshop them. Often, after having successfully written a pattern in the class, students will go on to write more patterns, especially if a reward system is in place to encourage this. At AG Communication Systems, authors were given a copy of a patterns book (a Treasure).*

Lucent Technologies expanded a one-day introduction to patterns to two days to allow time for pattern writing and workshopping.

ChiliPLoP uses this technique in their “newbies” track.

The introductory-level patterns tutorial led by Dick Gabriel, Jim Coplien, Christa Schwanninger, Frank Buschmann, and Carol Stimmel at the OOPSLA'99 conference was held over two days to allow time for attendees to write and review their own patterns.

Author: Mary Lynn Manns

Shepherded and workshopped at OOPSLA'99 (August 1999).

Shepherded and workshopped at EuroPLoP'00 (July 2000).

In Your Space

Make the patterns effort visible by placing reminders throughout your organization.

You're a Dedicated Champion. There are busy people all around you who have more to think about than patterns.

How can you keep patterns in the minds of individuals?

People don't usually take time to periodically look at the pattern repository but they'll notice, and are likely to discuss, things that are put in places they frequently encounter in a typical workday, like white boards or bulletin boards in high traffic areas in an organization.

"Because members have to have a way to get to know each other, a community can't really exist without gathering places—mailing lists, message boards, chat rooms—wherever a group can come together and talk amongst themselves." [Kim00:29]

Technical people like to be in the know and are willing to get to the bottom of anything new.

Therefore:

Post patterns written in your organization, and other pattern information, on a white board or bulletin board, preferably in a high traffic area. Create a special area with a title, for example "Pattern of the Week," that will draw attention from people passing by. The area must be highly visible, yet pleasing to the eyes of those who display their work and those who will read it.

The patterns placed in this space can be "ready for prime time" (the ones that also appear in the your repository) or proto-patterns that are not in the repository because they are still in need of review. If a proto-pattern is displayed, it should be marked as such. Change the pattern on the same day each week (or other time period) so that people know when to look for a new one.

The board can also include an intriguing quote to capture attention. Associate the identity of the Dedicated Champion with the board. The Dedicated Champion must be prepared to leverage any queries with a Personal Touch towards building or maintaining a Grass Roots effort.

The area near the pattern can be also be used to advertise upcoming patterns events.

Patterns will stay "in the space," and in the mind of the organization. Those who see the patterns will be inspired and might decide to write a pattern too. Those whose pattern(s) are displayed will see that they are valued by the organization and this may encourage them to write more. The board will also provide the opportunity to discuss and review the pattern.

This technique was used at U S WEST. A white board containing "Pattern of the Week" was placed in a high traffic area.

Carol Stimmel writes, "In my organization, the disciplines are highly disparate and a new technology simply doesn't garner widespread interest. It is expected that the use of patterns could be useful across disciplines, but it is not really known outside of Architecture and Software Engineering. In Your Space is a way to capture eyes, imagination, and interest towards patterns in much the way Don Olson's HandsInView (advising a skier to always keep her hands so they can be seen [Olson98a]) pattern does, by showing a useful pattern that is not necessarily technical."

Author: Mary Lynn Manns and Carol Stimmel

Shepherded and workshopped at PLoP'99 (August 1999).

Shepherded and workshopped at EuroPLoP'00 (July 2000).

e-Forum

As an Evangelist or Dedicated Champion, set up a bulletin board, distribution list or listserver for those who want to hear more.

You're an Evangelist or Dedicated Champion trying to introduce patterns into your organization.

How can you initiate and maintain contact with people who might be interested in your idea?

It's hard to get information to everyone at the beginning. We're overwhelmed by too many ideas and everyone is too busy but most people will spend a little time each day reading e-mail.

People might not have time to attend every Brown Bag or other patterns event but they like to know what's going on. So they might read a few e-mail announcements before deciding to become more active in the community.

The author of *Community Building on the Web* has observed, "A mailing list is often the best way to get your online community started. If it takes off, you can always add more features and gathering places. You can create a prelaunch mailing list for your founding members, early adopters, enthusiasts, or devotees. You'll get to know some of your most potentially valuable members and let them meet each other, before your member database is set up." [Kim00:30]

Therefore:

Create a publicly accessible electronic, interactive forum. Advertise its existence. Keep it active and growing. Apply it using Personal Touch.

This virtual community will help you establish a real one. It will provide a way to identify expectations and goals for your organization and create a consistent definition of your new activity.

If you monitor the medium, you can use this information to convince management that the interest is there for the next step—management support and the identification of a Local Leader or Corporate Angel.

The patterns Evangelist at AG Communication Systems used a growing e-mail distribution to draw attention to patterns activities. The initial list came from Brown Bag attendees. Later, when training courses were offered, attendees were also added to the list. The distribution list was used to advertise pattern news, especially Big Jolt visits. The list made the recipients feel that they heard about an event before the general population.

The Dedicated Champion at U S WEST used a growing e-mail distribution list to send the latest news on patterns events and useful examples of patterns.

Authors: The EuroPLoP 2000 Focus Group on Introducing Patterns into Organizations: Gerhard Ackermann, Frances Evans, Peter Gassmann, Jan de Groot, Pavel Hruby, Klaus Marquardt, Amir Raveh, Linda Rising, Maks Romih, Didi Schuetz, Alberto Silva, Amy Strucko, and Oliver Vogel, with special thanks to Amir Raveh for the idea and capturing the initial version of the pattern.

Workshopped at EuroPLoP'00 (July2000).

Hometown Story

Find individuals who will talk about their patterns experiences and encourage them to do so.

You're a Dedicated Champion trying to Involve Everyone.

How can you make the experiences of those who have accepted patterns known to those who have not?

People want to know what successful people are doing. For those who attend, hearing the experiences of respected peers is the next best thing to personally having the experience. "Most individuals will not adopt an innovation without trying it first...to determine its usefulness." [Rogers95:171] Rogers has shown that, "the trial of a new idea by a peer like themselves can substitute, at least in part, for [an individual's] own trial". [Rogers95:171]

Some individuals are willing to talk about their experiences, but don't want to take the time to prepare and deliver a formal presentation. Informal, interactive presentations require little preparation and can be just as, or even more effective. Individuals are more likely to talk about experiences when they can do it in an informal way with little or no preparation. Offering informal opportunities can also help those who are hesitant about speaking in front of a group.

Therefore:

Find individuals who will to talk about their patterns experiences. It is best if these individuals are known to and respected by others in the organization. Encourage them to present their experiences by: assuring them that their presentation does not need to be prepared and delivered in a formal way; doing the "leg work" necessary to prepare an informal session; promoting the event as in informal and highly interactive session

You do not need a large audience. Small group settings are usually better than large groups for creating an informal, interactive atmosphere. Attendance can be encouraged with Do Food and Brown Bag.

Individuals who are willing to share their patterns experiences with others in the organization will have the opportunity to do so with very little effort on their part. Those who attend the session(s) will see that patterns can be useful to others in the organization and therefore have the potential to be of use to them too.

This pattern was used at US WEST. Meetings were well attended and filled with discussion.

This pattern was used at AG Communication Systems. Patterns success stories were often reported at team meetings. One presenter even went on to give his presentation at OOPSLA.

Author: Mary Lynn Manns

Shepherded and workshopped at PLoP'99 (August 1999).
Shepherded and workshopped at EuroPLoP'00 (July 2000).

Do Food

Having food draws people in. Even cookies can increase attendance.

You're an Evangelist or Dedicated Champion who has called a meeting to introduce patterns. Members of the user community are free to attend or not. If a Local Leader is not in place to provide resources, someone else will have to pick up the tab.

How do you entice people to attend meetings introducing patterns?

There is always other, more important, work to be done but most people have a natural curiosity about new ideas but they're too busy and are leery of becoming involved in a new idea that might take time and might not lead anywhere. However, everyone likes free food!

Having food draws people in. According to Alexander's pattern, Communal Eating (147), food turns a meeting into an event, "the mere act of eating together...is by its very nature a sign of friendship..." [Alexander77:697]

Therefore:

Have food at the meeting—doughnuts and bagels with coffee, tea, and juice in the morning, cookies and soda in the afternoon. Lunch is good at noon.

People will attend almost any meeting if free food is available. Having the food to concentrate on when the meeting gets slow helps hold their attention (caffeine and sugar won't hurt!).

You may not be able to Do Food if the corporate culture doesn't accept food in meetings.

Be sure you have done your homework to understand the role of food in the culture. When doughnuts were provided at U S WEST in the health conscious city of Boulder, Colorado, no one ate them!

The graphic of chocolate chip cookies accompanied by an ice cold Pepsi has been left to the reader's imagination!

Apply this solution sparingly or expectations will become too high and when there is no food, people will be disappointed. The food should always be seen as a special treat.

Even without Local Leader or Corporate Angel you can give something away—books, cookies; copies of one or two useful patterns—not just more URLs. If you buy cookies yourself, both your colleagues and management will be impressed that you believe in the idea enough to put your money where your mouth is—they will see even small Trinkets* as a sign that you are serious about patterns. A copy of a pattern doesn't require a lot of time or money but it shows the attendees that you cared enough to spend a little of your time to help make their job easier.

While the prospect of free food is nice, Brown Bag can be used when funding is not available.

This technique has been used to draw attendance to information sessions set up to introduce patterns at AG Communication Systems .

It was also used at U S WEST. (After the experience with leftover donuts, bagels became the food of choice at patterns events.)

Jim Coplien says that a Bell Labs research tradition is "Food Place". Our department at Indian Hill has its own kitchen. Murray Hill has the famous espresso room. You might suggest that having a food place is a strong addition to this pattern (it works in the instances I've seen it used).

Author: David E. DeLano

Workshopped at the OOPSLA '96 "Introducing Patterns into the Workplace" workshop (October 1996).

Shepherded and workshopped at PLoP '97 (September 1997).

Shepherded and workshopped at EuroPLoP '00 (July 2000).

Brown Bag

Use the time when people normally eat lunch to provide a relaxed atmosphere for learning about patterns.

You're an Evangelist or Dedicated Champion who has called a meeting to introduce patterns. Members of the user community are free to attend or not. If a Local Leader is not in place to provide resources, someone else will have to pick up the tab.

How do you get people to attend meetings where new technologies are introduced, when they may not have a vested interest in patterns and you may not have resources to Do Food?

There is always other, more important, work to be done. Most people have a natural curiosity about new ideas but just don't have the time. Since everyone has to eat lunch sometime, if you are having difficulty finding a time when people will attend, having the meeting over lunch will often find more people with available time.

Therefore:

Hold the meeting in the middle of the day and invite the participants to bring their own lunch.

People are often willing to attend a meeting over lunch. This is not viewed as wasting time that could be spent doing "real" work, since the time would be spent eating anyway.

You may not be able to have a Brown Bag if the corporate culture doesn't accept food in meetings or having meetings over lunch.

When you have the support of a Local Leader or if you want to buy cookies, you can Do Food.

This technique has been used to increase attendance to information sessions set up to introduce patterns and other new technologies to AG Communication Systems.

David Kane of SRA International has applied this pattern to hold a Brown Bag conference:

- *Create a program committee to organize the event.*
- *Give presentations in the middle of the day and invite attendees to bring their own lunch.*
- *Have a presentation every day at lunchtime for one to two weeks.*
- *Draw presenters primarily from inside the organization.*
- *Invite corporate executives to host the session introduce the speaker.*
- *Advertise the conference so that it is perceived as an event.*
- *Track who signs up and attends each session.*
- *Send reminders to participants who registered.*
- *Have door prizes and snacks at each session.*
- *Measure attendee satisfaction after each session.*

Charles Schwab uses brown bag training sessions to provide on-the-job training for Java developers.

<http://www.zdnet.com/eweek/stories/general/0,11011,2601709,00.html>

Author: David E. DeLano

Workshopped at the OOPSLA '96 "Introducing Patterns into the Workplace" workshop (October 1996).

Shepherded and workshopped at PLoP '97 (September 1997).

Shepherded and workshopped at EuroPLoP '00 (July 2000).

Big Jolt

Invite a well-known person who has earned credibility in the patterns community to do a presentation in order to attract a crowd.

You're a Dedicated Champion with support from a Local Leader or Corporate Angel.

What's a good way to attract a lot of attention for a patterns presentation?

Some people are too busy to attend Brown Bags but would find time to attend a one-time event with a "big name" speaker. When the speakers have credibility, most people will believe them and become intrigued by what they have to say. Even individuals who have adopted patterns need to have their interest reinforced so it does not fade.

“Many community builders use celebrity events to create a “buzz” that raises the overall level of awareness about the community. On the other hand, dealing with celebrities often involves a lot of extra overhead and expense and the results may be short-lived. Celebrity events can divert resources and distract you from higher-priority tasks without necessarily contributing to your long-term community development.”
[Kim00:257]

Big names can be convincing! Rogers has found that communication from outside the individual's social system has a significant impact when the individual is being introduced to an innovation and in the process of gaining some understanding of it. [Rogers95:196] Those who are already making use of patterns need a “big jolt” too. It will serve to re-energize their interest and help to confirm their decision. As Rogers cautions, a decision to adopt an innovation is not the end. People still desire information to provide confirmation and may reverse their decision if not provided with that information. [Rogers95:80]

Therefore:

Invite a well-known person who has credibility in the patterns community to do a presentation. Be certain that this person is willing to speak at a level the organization can absorb. “Big name” people usually have a large amount of experience and may wish to talk about something that the organization is not prepared to understand.

If funding is not available to pay speakers, entice them by pointing out that this is an opportunity to get publicity for their latest book or project.

Increase the probability of a significant audience with lots of publicity before the event and, if possible, use Do Food. Since this can be a good opportunity to make an impression on the Corporate Angel and Local Leader, Stay Close*, use Royal Audience*.

If the speaker permits it, videotape the presentation and hold one or more video sessions for those who could not attend the real thing.

Most importantly, treat these events as just periodic bursts to stimulate interest of new people and re-energize others. It must be held in the context of a bigger plan, for without a follow-up, the enthusiasm is likely to fizzle.

A big name speaker will raise awareness and credibility of patterns even among busy people. It will also serve to re-energize those who already subscribe to patterns. Even those who do not attend the presentation will be impressed because of the publicity before the event and the talk about it afterwards. However, this can initially create more excitement than can be handled. Enthusiastic individuals that aren't given some guidance can imagine that patterns are the latest silver bullet; these individuals will eventually be disappointed. As Rising notes, "The patterns community prides itself on the avoidance of hype." [Rising98:3] Therefore, the organization needs to follow this "jolt" by using other patterns in this language.

The interest in and inquiries about patterns increased significantly at U S WEST after Jim Coplien did a presentation there.

David DeLano of AG Communication Systems says they "use this as much as we can. For some reason, people don't listen to the in-house experts as well as a visiting 'dignitary.'"

Schlumberger Oslo Technology Center used this when they invited Jim Coplien. The Dedicated Champion sees a difference in those who heard Cope talk and those who did not—most of those who did are willing to hear more while most of those who did not are still skeptical about patterns.

Author: Mary Lynn Manns

Shepherded and workshopped at PLoP'99 (August 1999).

Shepherded and workshopped at EuroPLoP'00 (July 2000).

Pattern Mentor

One way to help a project that wants to get started with patterns is to have someone around who understands patterns. This mentor could be the Dedicated Champion.

You're a Dedicated Champion, trying to introduce patterns into your organization.

A project is interested in patterns but has team members who are unfamiliar with patterns and is therefore unsure about their use.

How can you help people learn how to make use of patterns on a project?

If the project members are willing to introduce patterns into their project, they can study patterns to some extent. However, they might need guidance in applying patterns since they are not necessarily experts.

On the other hand, the number of experts in patterns may be relatively small compared with the number of projects. The experts do not always know about the domain on which the software is being developed, nor have much time to understand the domain.

Goldfedder writes, "Several organizations I worked with initially staffed [Pilot Project⁶] with people who had no real understanding of object technology and thus the evaluation showed that objects would not work in environment X. I have seen similar things happen in recent years with patterns. I still recommend the proof of concept starter projects as a training experience but always recommend having an external expert involved in helping to jump start the efforts." [Goldfedder(in press):38]

Therefore:

Hire an outside or internal consultant or trainer or take on the role of a Pattern Mentor to provide mentoring and feedback for the project members.

The Pattern Mentor should use a hands-on approach, work side by side with the team, and let them know that he has struggled with the same problems. This will help open their minds to the new technology. [John Letourneau, workshop contribution, ChiliPLoP'2000]

Project members will receive help with patterns during the design phase. They will develop confidence in their use of patterns and then be able to help others.

While this pattern suggests that the project should hire the expert as a mentor to help with the design, it does not require the mentor to be an expert in the domain. A single Pattern Mentor can support several projects at the same time.

The best way to solve this problem, of course, is to send the entire team to training together to prepare for the project, as described in Don Olson's pattern, TrainHardFightEasy [Olson98b].

This pattern has been applied to the introduction of design patterns into a software development project at Toshiba Corporation. In this development, the Pattern Mentor was also a member of the development project.

Toshiba Corporation is also planning to develop a CASE tool that behaves as a Pattern Mentor for design patterns.

At AG Communication Systems, patterns training was available to anyone in the company. In some training classes, the instructor worked as a consultant with teams who were taking the class together. This combination of classroom instruction and hands-on Pattern Mentor was very effective.

AT&T reports the role of a Pattern Mentor as one of their “lessons learned”. Coplien says that “the use of pattern mentors in an organization can speed the acceptance of patterns. [They] can help provide a balance between encouraging good design practices based on patterns and discouraging overly high expectations of designs based on patterns. Initially Pattern Mentors can help developers recognize the patterns that they already use in their application domain and show how they could be reused in subsequent projects. Pattern Mentors should also watch that the wrong patterns are not applied to a problem (i.e. people tend to reuse things that they know and the same temptation will apply to patterns, regardless of whether the pattern actually fits the problem).” [Anderson94]

Author: Junichi Yamamoto

Workshopped at the OOPSLA '96 “Introducing Patterns into the Workplace” workshop (October 1996).

Shepherded and workshopped at PLoP'97 (September 1997).

Shepherded and workshopped at EuroPLoP'00 (July 2000).

Bread upon the Waters

To gain credibility inside your organization, have your work published in an external source that is recognized by your colleagues.

You're an Evangelist or Dedicated Champion trying to introduce patterns into your organization. You're allowed to publish externally, after proprietary information has been removed.

You and your work lack credibility inside your organization.

"A prophet has no honor in his own country." Reputation is difficult to establish and easy to lose.

External publications have more credibility than internal technical reports. Internal technical reports are often WODs (write-only documents), sometimes distributed widely at a management level without giving developers exposure to the ideas.

"Cast thy bread upon the waters, and after many days it will return to thee a hundredfold." [Ecclesiastes 11:1]

Therefore:

To draw attention to ideas send them outside. Market your ideas externally so that developers and responsible managers become aware of them:

- **Publish in journals read by your internal customers.**
- **Present your work at conferences attended by your internal customers.**
- **A last but time-consuming option is to write a book and get it published by an external publisher.**

Your internal customers will learn about your work through trusted channels. Development departments might invite you for in-house presentations, workshops, consulting, etc. If development departments transfer money to your group for these activities, you will have funding for the work.

Risks involved in external marketing include the following:

- You had better be right in the things you publish.
- Competition within your group might bring up contradicting ideas and thus confuse developers.
- Management and developers might label your group as 'writing only and not working.'

You can address top-level management by carefully choosing the publication channel. This approach might be useful for finding a Local Leader or Corporate Angel.

A variant to external publication is the use of a Big Jolt visit to bring your ideas into your organization.

Siemens Corporate Research and Development (ZFE). Technology transferred this way includes distributed object computing (CORBA etc.), patterns, object-orientation, and Java.

The following authors used this pattern to write their book: Buschmann, F. R. Meunier, H. Rohnert, P. Sommerlad, and M. Stal, Pattern-Oriented Software Architecture: A System of Patterns, John Wiley & Sons, 1996.

Junichi Yamamoto told a story about his boss at Toshiba's Technology Center, who wrote a book on OO design that was read by Toshiba's developers.

This pattern has also been used by the Fundacao Centro Tecnologico para Informatica CTI in Brazil. A paper was submitted to a local conference and was ranked first place among those submitted. The Corporate Angel learned about this honor and spread the word throughout the company. This really helped credibility in other parts of the company.

Several papers and a book were published about patterns at AG Communication Systems. These not only were exciting for authors to see their work in print but each publication increased the credibility of the patterns movement in the organization.

Author: Peter Sommerlad

Workshopped at the OOPSLA '96 "Introducing Patterns into the Workplace" workshop (October 1996).

Shepherded and workshopped at PLoP '97 (September 1997).

Shepherded and workshopped at EuroPLoP '00 (July 2000).

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